

transmitting the call billing data in the second data structure format to the data network for  
billing processing.

### REMARKS

By this amendment, claims 1-27 are pending, in which claims 1, 7, 10-11, 14, 17, and 22 are amended. Care was exercised to avoid the introduction of new matter.

The Office Action dated September 25, 2000 rejected claims 1-4 as obvious under 35 U.S.C. § 103 based on *Mechling et al.* (US 5,873,030) in view of *Jaiswal et al.* (US 6,002,754), claims 5-7 as obvious over *Mechling et al.* and *Jaiswal et al.* in view of *Witzman et al.* (US 5,737,399), claims 8-10 as obvious over *Mechling et al.*, *Jaiswal et al.*, and *Witzman et al.* in view of *Kay et al.* (US 5,575,894), claims 11-16 as obvious over *Mechling et al.* and *Jaiswal et al.* in view of *Herbert* (US 5,333,183), and claims 17-27 as obvious over *Mechling et al.* and *Jaiswal et al.* in view of *Liu et al.* (US 5,898,780) further in view of *Wang* (US 5,991,746). Despite the apparent complexity of the rejection, the Office Action basically boils down to using *Mechling et al.* for disclosure of collecting billing records, *Jaiswal et al.* for disclosure of converting billing records, and the remaining references for various details.

The rejection of the claims is respectfully traversed because *Mechling et al.* and *Jaiswal et al.*, whether alone or in combination, fail to disclose the limitations of the claims, and, in fact, teach against the making the invention recited in the claims. For example, claim 1 recites a network processor “operative to receive the collected call billing data in the first data structure format, convert the collected call billing data from the first data structure format to a second data structure format, and transmit the call billing data in the second data structure format to the data

network for billing processing.” Thus, call billing data is obtained from a network operative to carry user calls in one format, converted into another format, and transmitted to a data network. The remaining independent claims recite a similar path of call billing data, e.g. from a signaling network to a data network.

This feature, however, is not taught nor otherwise suggested by *Mechling et al.* or *Jaiswal et al.* As correctly recognized by the Office Action, *Mechling et al.* fails to disclose anything about conversion of billing records into a second format. *Mechling et al.* also fails to disclose transmitting the billing records to a data network; rather, *Mechling et al.* shows billing records **208H** being collected onto a National Mobile Service Platform (NMSP) **210** (see FIG. 2C). Combining *Mechling et al.* with *Jaiswal et al.* does not support rejection, because *Jaiswal et al.* discloses the flow of data in the **opposite** direction—from a peripheral to the central office communications network as the destination:

The billing processing method comprises the steps of: (1) receiving raw billing data from the peripheral subsystem; (2) associating the received raw billing data with a formatting object; (3) converting the received raw billing data as specified in the formatting object into a formatted data object; and (4) outputting the formatted data object to the central office communications network. (col. 1:64–2:4)

Thus, not only do *Mechling et al.* and *Jaiswal et al.* fail to teach or suggest the limitations of the invention as claimed, *Jaiswal et al.*’s opposite configuration teaches against the claimed invention.

Dependent claims 2-9, 11-21, and 23-27 are patentable for at least the same reasons as their independent claims and are individually patentable on their own merits. For example, claims 4 and 12 further require polling to collect the first data structure format billing records, but this feature is not taught in the cited references. In specific, the Office Action cited *Mechling*

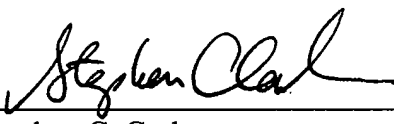
*et al.* at col. 18:45-60 for this limitation, but that section merely discloses that call traffic information is collected at the local mobile network without any hint of polling for call billing data. The other citation in the Office Action, *Herbert*, col. 28:22-31, mentions retrieving transaction statistics data but not polling for "call billing data."

Therefore, the present application, as amended, overcomes the rejections of record and is in condition for allowance. Favorable consideration is respectfully requested. However, if any unresolved issues remain, it is respectfully requested that the Examiner telephone the undersigned attorney at 703-425-8516 to resolve these issues as expeditiously as possible.

Respectfully Submitted,

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APPENDIX

1. An apparatus for managing call billing records for communications network users, comprising:
  - a communications network operative to carry user calls;
  - a gateway communicating with the network and operative to collect call billing data from the network in a first data structure format;
  - a communication link coupled to the gateway; and
  - a network processor communicating with the gateway via the communication link and with a data network and operative to receive the collected call billing data in the first data structure format, convert the collected call billing data from the first data structure format to a second data structure format, and transmit the call billing data in the second data structure format to the data network for billing processing.
2. The apparatus of claim 1 wherein the gateway comprises a signaling gateway.
3. The apparatus of claim 1 wherein the network processor comprises an interface that mates with the communication link.
4. The apparatus of claim 1 wherein the network processor polls the gateway to collect the collected call billing data in the first data structure format.
5. The apparatus of claim 1 wherein the first data structure format comprises raw ASG call event records (CERs).
6. The apparatus of claim 1 wherein the second data structure format comprises data in a Bellcore automatic message accounting (AMA) format.

7. The apparatus of claim 1 wherein the data network is configured to periodically receive the call billing data in the second data structure format for billing processing.

8. The apparatus of claim 7 wherein the data network comprises a local traffic system (LTS), and wherein the second data structure format comprises an industry standard automatic message accounting (AMA) format.

9. The apparatus of claim 1 wherein the network process comprises a network platform.

10. An apparatus for managing call billing records for users of a communications network, comprising:

a network having communications capabilities to carry user calls;

a signaling gateway communicating with the network and operative to collect call billing data resulting from the calls in a first data structure format;

a communication link coupled to the signaling gateway; and

a network processor communicating with the signaling gateway via the communication link and with a data network and operative to convert the collected call billing data from the first data structure format to a second data structure format conducive to conducting billing processing and transmit the call billing data in the second data structure format to the data network for billing processing.

11. The apparatus of claim 10 wherein the data network is operative to periodically receive the call billing data in the second data structure format for billing processing.

12. The apparatus of claim 10 wherein the network processor polls the gateway to collect the collected call billing data in the first data structure format.

13. The apparatus of claim 12 wherein the network processor polls the gateway at preset intervals.

14. The apparatus of claim 10 wherein the data network is configured to receive the call billing data in the second data structure format for billing processing.

15. The apparatus of claim 14 wherein the data network comprises a local traffic system (LTS), and wherein the received call billing data in the second data structure format comprises an industry standard automatic message account (AMA) structure code 625 format that is used to implement billing processing.

16. The apparatus of claim 10 wherein the network processor includes an interface coupled with the communication link operative to mate the network processor with the signaling gateway.

17. A method of managing call billing records of users of a communications network, comprising:

providing a first computer device, a second computer device, and a communication link, the first computer device communicating with the network and the second computer device communicating with the first computer device via the communication link and with a data network;

collecting call billing data with the first computer device in a first data structure format;

transferring the call billing data using a data communications protocol from the first computer device to the second computer device;

converting the call billing data with the second computer device from the first data structure format to a second data structure format; and

transmitting the call billing data in the second data structure format to the data network for billing processing.

18. The method of claim 17 wherein the first computing device is a signaling gateway.

19. The method of claim 17 wherein the second computer device is a network processor.

20. The method of claim 17 wherein the data communications protocol comprises a file transfer protocol.

21. The method of claim 17 further comprising a communication link provided between the first computer device and the second computer device.

22. A method of managing call billing records generated from usage within a communications network by users, comprising:

providing a signaling gateway communicating with the network and a network processor communicating with the signaling gateway and with a data network;  
collecting call billing data with the signaling gateway in a first data structure format;  
transferring the call billing data using a data communications protocol from a signaling gateway to the network processor;  
converting the call billing data with the network processor from the first data structure format to a second data structure format conducive to processing billing information; and  
transmitting the call billing data in the second data structure format to the data network for billing processing.

23. The method of claim 22 further comprising routing call billing data for a user via the network processor to a data network.

24. The method of claim 22 further comprising generating an invoice from the data network for delivery to individual users.

25. The method of claim 22 wherein the data communications protocol comprises a file transfer protocol.

26. The method of claim 22 wherein a communication link is provided between the signaling gateway and the network processor.

27. The method of claim 22 further comprising generating an alarm signal with the network processor.